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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,540	03/04/2002	Morten Bruun-Larsen	0459-0700P	1861

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EXAMINER

MENEFEE, JAMES A

ART UNIT PAPER NUMBER

2828

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

H.D.

<b>Office Action Summary</b>	<b>Application No.</b> 10/086,540	<b>Applicant(s)</b> BRUUN-LARSEN ET AL.	
	<b>Examiner</b> James A. Menefee	<b>Art Unit</b> 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-27 and 29-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-27 and 29-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
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#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

In response to the amendment filed 01/08/2004, claims 1, 4-9, 27, and 30 are amended and claims 2 and 28 are cancelled. Claims 1, 3-27, and 29-41 are pending.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims, previously dependent on now cancelled claim 2, are apparently intended to be amended to depend on claim 1. However, as presented, the claims still depend on claim 2. The claims must be amended to fix this typographical error and depend on claim 1.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-27, and 29-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kmetec et al. (previously cited US 5,757,831) in view of Bergmann (previously cited US 6,128,133).

Regarding claims 1 and 27, Kmetec discloses an optical system comprising a light source 10 for emission of a first light beam, a beam splitter 50 that splits the first light beam into a primary and a secondary output beam, and transmits the primary output beam and reflects the secondary output beam. A detector 56 measures the power of the secondary output beam and provides a control signal to the light source for stabilizing the power of the light beam based on the secondary output beam. See Fig. 4 and the discussion thereof, and note that applicant has admitted this disclosure of Kmetec in the discussion of the background of the invention. It is not disclosed that the power of the secondary output is kept at a substantially fixed percentage of the power of the primary output. Bergmann teaches an optical system employing a beam splitter having a dielectric coating that is the same as that described in the applicant's specification, and Bergmann teaches that the beam splitter reflects a portion of incident light (secondary output beam) and transmits a portion of incident light (primary output beam), where the reflected portion is a fixed fraction of the transmitted portion (col. 2 lines 32-35). It would have been obvious to one skilled in the art to substitute Bergmann's beam splitter into Kmetec's system because it suppresses undesired feedback of the beam, as taught by Bergmann.

Regarding claims 4-15, 17-18, and 30-36, and 38-39, as Bergmann's beam splitter is the same as that of the present invention, these claimed characteristics of the beams that are formed by such a beam splitter will be found in the beams split by Bergmann's beam splitter when placed in Kmetec's system.

Regarding claims 3, 16, 29, and 37, Bergmann's beam splitter is made of materials where the transmittance and reflectance of the splitter will be invariant to a change in temperature or wavelength.

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Regarding claim 19, Kmetec discloses the light source is a solid-state laser.

Regarding claim 20, it is not disclosed that the light source is a wavelength tunable laser. However, wavelength tunable lasers are well known in the art, so much so as to encompass an entire classification subclass, 372/20. It would have been obvious to one skilled in the art to substitute a wavelength tunable laser for the laser of Kmetec so that the laser may be used in one of countless applications where tuning of a laser to a desired output is needed, as is well known.

Regarding claims 21-26 and 40-41, Bergmann's beam splitter may comprise alternating layers of  $\text{TiO}_2$  and  $\text{SiO}_2$  (claim 8), which will have the refractive index characteristics as claimed, thus meeting all of these limitations.

### ***Response to Arguments***

Applicant's arguments filed 01/08/2004 have been fully considered but they are not persuasive.

Applicant argues that Bergmann's beam splitter does not disclose the added limitation that the fixed percentage relationship of the output beams is substantially invariant to wavelength variations of the first light beam within a predetermined wavelength range. The Examiner disagrees. Bergmann desires that the beam splitter have the fixed relationship as claimed (see col. 2 lines 32 et seq.). Bergmann does not differentiate between maintaining this relationship at one particular wavelength, or over a predetermined range of wavelengths, thus Bergmann may be interpreted to include the latter.

Applicant argues against this argument by the Examiner by pointing to Bergmann Figs. 4-6, which applicant asserts shows that the fixed percentage relationship varies with wavelength.

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This is not persuasive. For example, in Fig. 5 the reflectance of the splitter is invariant over the range from 1000 to 1100 nm. The added limitation is sufficiently broad that this Figure discloses this limitation.

As a result, the Examiner is not convinced that the beam splitters of Bergmann and the present invention are different enough that Bergmann does not teach this added limitation. If the applicant's beam splitter is indeed different than Bergmann, more structure must be added to distinguish the two. Applicant's argument that different processes may yield different beam splitters is not persuasive, as Bergmann discloses beam splitters having the properties as claimed.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (571) 272-1944.


The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (571) 272-1941. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



JM  
January 26, 2004



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